

What is claimed is:

1. A method for assembling a drive axle assembly of a motor vehicle, said drive axle assembly comprising a support beam member and a differential assembly module, said  
5 method comprising the steps of:
  - a) providing said support beam member having a central plate section provided with an opening therethrough and having substantially flat front and rear mounting surfaces;
  - b) securing said differential assembly module to said central plate section of said support beam member so that said differential assembly module extends through said opening  
10 in said support beam member;
  - c) securing a front cover and a rear cover to said central plate section of said support beam member.
2. The method for assembling said drive axle assembly as defined in claim 1, wherein  
15 said differential assembly module is fastened to said rear mounting surface of said central plate section of said support beam member.
3. The method for assembling said drive axle assembly as defined in claim 1, wherein said differential assembly module includes a differential carrier frame member having a neck  
20 portion for rotatably supporting a drive pinion and two opposite leg portions each provided with a bearing hub portion for rotatably supporting a differential case, and wherein the step of securing said differential assembly module to said central plate section includes the step of securing said differential carrier frame member of said differential assembly module to said

central plate section of said support beam member so that said differential carrier frame member extends through said opening in said support beam member.

4. The method for assembling said drive axle assembly as defined in claim 3, wherein  
5 said differential carrier frame member of said differential assembly module is fastened to said rear mounting surface of said central plate section of said support beam member.

5. The method for assembling said drive axle assembly as defined in claim 4, wherein  
said differential carrier frame member is provided with a mounting flange portion for securing  
10 said differential carrier frame member to said rear mounting surface of said central plate section of said support beam member.

6. The method for assembling said drive axle assembly as defined in claim 5, wherein  
each of said bearing hub portions of said differential carrier frame member is provided with  
15 said mounting flange portion.

7. The method for assembling said drive axle assembly as defined in claim 1, wherein  
said front cover is secured to said front mounting surface of said support beam member.

20 8. The method for assembling said drive axle assembly as defined in claim 7, wherein  
said front cover is secured to said front mounting surface of said support beam member by welding.

9. The method for assembling said drive axle assembly as defined in claim 3, further including the step of fastening said neck portion of said differential carrier frame member to said front cover.

5           10. The method for assembling said drive axle assembly as defined in claim 1, wherein said rear cover is secured to said rear mounting surface of said support beam member.

          11. The method for assembling said drive axle assembly as defined in claim 10, wherein said rear cover is secured to said rear mounting surface of said axle support beam  
10   member by a plurality of threaded fasteners.

          12. The method for assembling said drive axle assembly as defined in claim 1, wherein said differential assembly module is secured to said central plate section of said support beam member by a plurality of threaded fasteners.

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          13. The method for assembling said drive axle assembly as defined in claim 3, wherein said differential assembly module further includes differential bearings for rotatably supporting said differential case, said method includes the step of preloading said differential bearings prior to the step of securing said differential assembly module to said central plate  
20   section of said support beam member.

          14. The method for assembling said drive axle assembly as defined in claim 1, wherein said central plate section of said support beam member has a substantially C-channel cross-

section across the entire height thereof.

15. The method for assembling said drive axle assembly as defined in claim 1, wherein  
said drive axle assembly further comprises two opposite axle shaft members oppositely  
5 extending from said differential assembly module and said rear cover has two opposite  
through holes for receiving said axle shaft members therethrough.

16. The method for assembling said drive axle assembly as defined in claim 15,  
further including the step of mounting said axle shaft members to said drive axle assembly by  
10 inserting inboard ends of said axle shaft members through said through holes in said rear  
cover and positively coupling said inboard ends of said axle shaft members to a differential  
mechanism of said differential assembly module.

17. The method for assembling said drive axle assembly as defined in claim 3, wherein  
15 said front cover has a front opening for receiving therethrough said pinion shaft of said drive  
pinion.

18. The method for assembling said drive axle assembly as defined in claim 1, wherein  
said support beam member of said drive axle assembly further includes two opposite arm  
20 sections extending from said central plate section.

19. The method for assembling said drive axle assembly as defined in claim 18,  
wherein said central plate section of said support beam member is enlarged relative to said  
arm sections.

20. A method for assembling a drive axle assembly of a motor vehicle, said drive axle assembly comprising a support beam member, a differential assembly module and two axle shaft members oppositely extending from said differential assembly module, said method comprising the steps of:

- a) providing said support beam member having an enlarged central plate section and two opposite arm sections extending from said central plate section, said central plate section provided with an opening therethrough and having substantially flat front and rear mounting surfaces;
- 10        b) providing said differential assembly module including a differential mechanism rotatably supported by a differential carrier frame member having a neck portion for rotatably supporting a drive pinion and two opposite leg portions each provided with a bearing hub portion for rotatably supporting a differential case, each of said bearing hub portions of said differential carrier frame member is provided with a mounting flange portion;
- 15        c) providing a front cover having a front opening for receiving therethrough a pinion shaft of said drive pinion;
- d) welding said front cover to said front mounting surface of said axle support beam member;
- e) fastening said mounting flange portion of said differential carrier frame member of
- 20        said differential assembly module to said rear mounting surface of said central plate section of said support beam member by a plurality of threaded fasteners so that said differential carrier frame member extends through said opening in said support beam member and said pinion shaft of said drive pinion of said differential assembly module extends through said front

opening in said front cover;

f) fastening said front cover to said neck portion of said differential carrier frame member by a plurality of threaded fasteners; and

g) providing a rear cover having two opposite through holes for receiving said axle  
5 shaft members therethrough;

h) fastening said rear cover to said rear mounting surface of said central plate section of said support beam member; and

i) mounting said axle shaft members to said drive axle assembly by inserting inboard ends of said axle shaft members through said through holes in said rear cover and positively  
10 coupling said inboard ends of said axle shaft members to said differential mechanism of said differential assembly module.

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